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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,779	01/22/2004	Qing Ma	42.P10077D2	7939

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EXAMINER
DOUGHERTY, THOMAS M

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 03/15/2006

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Please find below and/or attached an Office communication concerning this application or proceeding.

A

Office Action Summary	Application No.	Applicant(s)	
	10/763,779	MA ET AL.	
	Examiner	Art Unit	
	Thomas M. Dougherty	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *29-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *29-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 29-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Recitation of the ablative layer is confusing because it is combining a method of making the structure with the micro resonator structure itself. If the invention is a micro resonator as the preamble of the claims indicates, then recitation of a layer which is used in making the micro resonator does not appear proper to the invention since it involves a layer which is essentially to be removed, if it is proper to the invention, then citation of the device as a micro resonator is improper since the invention then becomes a method of making such, but not a micro resonator itself.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 29 and 31, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Heinouchi (US 5,913,244). Heinouchi shows (fig. 2) a resonator comprising: an oscillator member (12) disposed upon an oscillator pedestal (32); and a

structure (e.g. 26a) positioned on the oscillator member (12), the structure (26a) being separated from the oscillator member (12) by a protective pad (e.g. 30a).

The structure comprises a pattern of spaced-apart stacks (on top of the oscillator and on the bottom of the oscillator) disposed upon the oscillator member (12).

Recitation of an ablative structure positioned on the oscillator member does not carry patentable weight since this is a method of forming the device. Note that the method of forming a device is not germane to the issue of patentability of the device itself. In re Brown 173 USPQ 685, In re Fessman 180 USPQ 324.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 30, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heinouchi (US 5,913,244). Heinouchi does not note whether their protective pad is made form aluminum, an aluminum allow, silver, a silver alloy, indium, or an indium alloy. It is not noted if the protective pad is made from aluminum, an aluminum alloy, silver, a silver alloy, indium, or an indium alloy, a refractory metal, a refractory metal oxide, a refractory metal silicide, a refractory metal nitride, or combinations thereof. It is not known whether or not the oscillator member is made of a material selected from

polysilicon, a metal, a metal nitride, a metal oxide, a metal silicide, or combinations thereof.

It would have been obvious to one of ordinary skill in the art to employ such materials in the device of Heinouchi at the time of his invention since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Claims 34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heinouchi (US 5,913,244) further in view of Staudte (US 3,683,213). Heinouchi shows (fig. 2) a resonator system comprising: an oscillator (12) having an input (see col. 4, ll. 51-54 where he notes driving the device) and an output (see col. 5, ll. 15-22 where he notes output) and comprising: an oscillator member (12) suspended, a structure (e.g. 30a, 30b) positioned on the oscillator member (12); an input circuit (inherent since the device is noted as being driven) connected to the input; and an output circuit (again this is inherent as the device is noted as having an output and a detection means) connected to the output.

Heinouchi's structure comprises a pattern of spaced-apart stacks (note structures laminated on opposing sides of the oscillator member) disposed upon the oscillator member (12).

Heinouchi does not specifically note that his device is a microresonator.

Heinouchi does not show a substrate.

Heinouchi does not note if the protective pad is made from aluminum, an aluminum alloy, silver, a silver alloy, indium, or an indium alloy, a refractory metal, a refractory metal oxide, a refractory metal silicide, a refractory metal nitride, or combinations thereof. It is not known whether or not the oscillator member is made of a material selected from polysilicon, a metal, a metal nitride, a metal oxide, a metal silicide, or combinations thereof.

Staudte shows (figs. 2, 5 and 9) a microresonator system comprising: a micro-oscillator (40) having an input (24) and an output (23) and comprising: an oscillator member (40) suspended above a substrate (53), a structure (50a, 50b) positioned on the oscillator member (12); an input circuit (see fig. 9) connected to the input; and an output circuit (see figure 9) connected to the output.

Staudte doesn't show the structure (50a, 50b) being separated from the oscillator member (40) by a protective pad.

Staudte does not note if the protective pad is made from aluminum, an aluminum alloy, silver, a silver alloy, indium, or an indium alloy, a refractory metal, a refractory metal oxide, a refractory metal silicide, a refractory metal nitride, or combinations thereof. It is not known whether or not the oscillator member is made of a material selected from polysilicon, a metal, a metal nitride, a metal oxide, a metal silicide, or combinations thereof.

It would have been obvious to one having ordinary skill in the art to employ a substrate in the device of Heinouchi at the time of his invention in order to provide a means to mount the pedestal, such as Staudte shows. It would further have been

obvious to provide a microresonator device as opposed to a resonator device, such as Staudte teaches, since it has been held that a change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

It would have been obvious to one of ordinary skill in the art to employ such materials as recited above in the combined device of Heinouchi Staudte at the time either invention was made since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Direct inquiry to Examiner Dougherty at (571) 272-2022.

tmd

March 13, 2006

TOM DOUGHERTY
PRIMARY EXAMINER